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Information Update

June 10, 1996
Update #28

1. In an effort to clarify the issues regarding the analyses of Drinking Water compliance samples, the following information is provided by the Arizona Department of Health Services in conjunction with the Arizona Department of Environmental Quality:

For the purposes of reporting compliance data, a non-detect must be reported with a less than sign ("<") in front of the "MDL", "reporting level" or "trigger level" as appropriate, for the data to be usable for Drinking Water compliance purposes.

Maximum contaminant level (MCL) is the maximum permissible level of a contaminant in water which is delivered to any user of a public water system.

Method Detection Limit (MDL) is a value determined by the procedure in 40 CFR, Part 136, Appendix B. MDLs may be used in Arizona Drinking Water Rules as either a trigger or a reporting level for certain contaminants.

Practical Quantitation Limit (PQL) represents a practical and routinely achievable detection level with a relatively good certainty that any reported value is reliable. Arizona Laboratory Licensure requires that the laboratory include a concentration equal to or less than the PQL value in the calibration curve and/or as a daily Q.C. check.

Reporting levels are values which are required to determine compliance with the Arizona Drinking Water Rules. A value at the reporting level may or may not trigger additional action by the water system.(e.g. PQLs for Pb and Cu).

Trigger level is a value at which, in accordance with the Arizona Drinking Water Rules, a water system must take additional action(s). (e.g. for nitrate 5 mg/L is the trigger level at which an additional action must be taken).

A. Inorganic Chemicals (IOCs):

Single point of entry samples;

Antimony, Arsenic, *Asbestos, Barium, Beryllium, Cadmium, Chromium, Cyanide(as free cyanide), Mercury, Nickel, Selenium, Thallium; The trigger level is set at their respective MCL.

*Asbestos may be taken as a POE, distribution, or source sample.

Nitrate: the trigger level is 5 mg/L.

Nitrite: the trigger level is 0.5 mg/L.

Fluoride: the trigger level for public notice is 2.0 mg/L. The trigger level for increased monitoring is the MCL (4.0 mg/L).

Note: For single point of entry sample results to be qualified for use under ADEQ's waiver program, the results must be reported as non-detect at a value of less than 75% of the MCL. There are no waivers for Nitrate or Nitrite monitoring.

Composite samples;

For all of the above contaminants the trigger level is set at 1/5 of the MCL.

This holds true regardless of the number of samples used in the composite (up to five sampling points allowed in a composite).

B. Lead and Copper Rule Detection Limit Reporting Requirements.

Tap Samples (Distribution);

Pb: The lab must achieve a PQL equal to 0.005 mg/L.

Cu: The lab must achieve a PQL equal to 0.050 mg/L.

For certification and reporting requirements the lab must establish an MDL which is less than the above PQL. Arizona Laboratory Licensure requires that the laboratory include a concentration equal to or less than the PQL value in the calibration curve and/or as a daily Q.C. check.

Reporting requirements:

All lead and copper levels measured between the practical quantitation levels and the laboratories' method detection levels shall be either reported as measured or they may be reported as one-half the practical quantitation level specified for lead or copper. All levels below the laboratories' method detection levels for lead and copper **shall be reported as zero.**

Samples which have undergone source compositing; (samples at the tap cannot be composited).

Pb: An MDL of 0.001 mg/L must be achieved.

Cu: The lab must achieve an MDL of 0.001 mg/L (for both GFAA or ICP) or an

MDL of 0.020 mg/L if run by atomic absorption direct aspiration.(See Appendix B, Arizona Drinking Water Rules).

Reporting requirements:

All lead levels measured between 0.001 mg/L to 0.005 mg/L and copper measured between 0.001mg/L or 0.020 mg/L as applicable, to 0.050 mg/L shall be either reported as measured or they may be reported as one-half the practical quantitation level specified for lead or copper. All levels below the method detection levels for lead and copper **shall be reported as zero.**

C. Volatile Organic Chemicals (VOCs):

Single point of entry samples;

For all VOCs the trigger level is 0.0005 mg/L.

Composite samples;

The trigger level is 0.0005 mg/L. Vinyl Chloride, which is not routinely monitored, has special monitoring requirements which do not allow for compositing.

D. Synthetic Organic Chemicals (SOCs):

Single point of entry sample;

The trigger level is 1/2 the MCL, except for four of the compounds. These four compounds are atrazine, dibromochloropropane, ethylene dibromide, and di(2-ethylhexyl)phthalate. For these four compounds the trigger level is the MCL for each compound.

Composite samples;

For all composited SOCs the trigger level is the detection limit listed in Appendix B, Detection Limit Table, of the Arizona Drinking Water Rules.

The method used by the laboratory must be capable of achieving an MDL value which is less than 1/5 of the MCL, regardless of the number of samples used in the composite (up to five samples are allowed).

For Toxaphene the listed detection limit in Appendix B is greater than 1/5 the MCL, therefore the lab must achieve an MDL which is below 1/5 the MCL and would be less than Appendix B detection limit.

For EDB the listed detection limit in Appendix B is equal to 1/5 the MCL, therefore the lab must achieve an MDL which is below 1/5 the MCL and would be less than Appendix B detection limit.

Polychlorinated biphenyls (PCBs):

(i) **508A;**

Single point of entry sample;

The trigger level is 1/2 the MCL.

Composite samples;

The trigger level is the detection limit listed in Appendix B, Detection Limit Table, of the Arizona Drinking Water Rules.

For PCBs by method 508A the listed detection limit in Appendix B is equal to 1/5 the MCL, therefore the lab must achieve an MDL which is below 1/5 the MCL and would be less than Appendix B detection limit.

(ii) **Screening by method 505 or 508;**

Single point of entry;

If screening for PCB's, the samples must be screened for each of the Aroclors listed in Appendix B. The lab must meet the MDLs listed in the above table for each of the Aroclors. Each of the Aroclors listed in Appendix B must be reported. Detecting any of the Aroclors above their respective MDL would require that the sample be analyzed and quantitated by method 508A.

Composite samples;

Samples which are composited cannot be screened by method 505 or 508. Composited samples must be run by method 508A.

NOTE:

The Arizona Drinking Water Rules can be found in the Arizona Administrative Code, Title 18, Chapter 4, articles 1-5 with appendices A, B and C. A copy of this (available either on disk or hard copy) can be obtained from:

Secretary of State, Publications
State Capital West Wing
1700 W. Washington Street
Room 103
Phoenix, Arizona 85007.

Their phone number is (602) 542-4086. According to their office a hard copy will cost $8.00. This needs to be prepaid or you can stop by their office and pick up a copy.

2. If you have any questions regarding the Updates or if you have any technical questions that need clarification, please call Prabha Acharya, Program Manager,Technical Resources and Training, at the above numbers.

THIS MESSAGE AVAILABLE IN ALTERNATIVE FORMAT UPON REQUEST , BY CONTACTING: Wesley Press AT (602) 542-0357

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